

AMENDMENT TO THE CLAIMS

1. (Currently amended) An MEMS device, comprising:

a first film including a first electrode having a lower surface on which a first insulating film is formed;

a second film including a second electrode having an upper surface on which a second insulating film is formed; and

an air gap formed between the first film and the second film,

wherein the lower surface of the first electrode faces the upper surface of the second electrode, and a first insulating film is formed on a surface of the first film facing the air gap;

~~a second insulating film is formed on a surface of the second film facing the air gap;~~

the air gap is formed by removing a sacrificial film formed between the first film and the second film [[,]]

~~a top portion, facing to the first electrode, of the air gap is in contact with the first insulating film, and~~

~~a bottom portion, facing to the second electrode, of the air gap is in contact with the second insulating film.~~

2. (Previously presented) The MEMS device of Claim 1,

wherein at least one of the first electrode and the second electrode has a through hole communicating with the air gap.

3. (Previously presented) The MEMS device of Claim 1,

wherein the first insulating film and the second insulating film are insulating films having tensile stress.

4. (Previously presented) The MEMS device of Claim 1,
wherein the first insulating film and the second insulating film are silicon nitride films.

5. (Previously presented) The MEMS device of Claim 1,
wherein the sacrificial film is a lamination layer of a plurality of insulating films made of the same material.

6. (Previously presented) The MEMS device of Claim 1,
wherein the first film is a fixed film, and the second film is a vibrating film.

7. (Previously presented) The MEMS device of Claim 1,
wherein the first insulating film is formed so that the first electrode does not come into contact with the air gap, and
the second insulating film is formed so that the second electrode does not come into contact with the air gap.

8. (Previously presented) The MEMS device of Claim 1,
wherein the thickness of the air gap is determined substantially by the thickness of the sacrificial film.

9. (Previously presented) The MEMS device of Claim 1,
wherein one of the first film and the second film further includes an electret film.
10. (Previously presented) The MEMS device of Claim 1,
wherein one of the first film and the second film vibrates upon receipt of sound pressure.
11. (Previously presented) The MEMS device of claim 1,
wherein the air gap is formed using a semiconductor microfabrication technique.
12. (Previously presented) The MEMS device of claim 1,
wherein the air gap is formed by removing a part of the sacrificial film by wet etching.
13. (Currently Amended) The MEMS device of claim 1,
wherein a protrusion is formed on one of the first film and the second film, and
the protrusion faces another one of the first film and the second film and extends toward
the air gap in a direction perpendicular to the lower surface of the first electrode ~~either one of
the first film and the second film.~~
14. (Previously presented) The MEMS device of claim 13,
wherein a recess corresponding to the protrusion is formed in the one of the first film and
the second film.
15. (Previously presented) The MEMS device of claim 1,

wherein the first film is formed on a semiconductor substrate so as to be in contact with the semiconductor substrate.

16. (Previously presented) The MEMS device of claim 1,
wherein the first film is formed on a semiconductor substrate so as to be in contact with the semiconductor substrate, and
a through hole is formed in the semiconductor substrate.

17. (Previously presented) The MEMS device of claim 1,
wherein the first film is formed on a semiconductor substrate so as to be in contact with the semiconductor substrate, and
a through hole is formed in the semiconductor substrate, where the through hole is formed by removing a part of the semiconductor substrate by wet etching.

18. (Previously presented) The MEMS device of claim 1,
wherein the first film is formed on a semiconductor substrate so as to be in contact with the semiconductor substrate,
the semiconductor substrate is placed on a printed circuit board so as to be in contact with the printed circuit board, and
a field effect transistor is formed on the printed circuit board so as to be in contact with the printed circuit board.

19. (Previously presented) The MEMS device of claim 1,

wherein a part of the sacrificial film is formed between the first and second films as a supporting portion, and

the air gap is substantially surrounded by the first and second insulating films and the supporting portion.

20. (New) The MEMS device of claim 1, wherein at least one of the first insulating film and the second insulating film entirely covers corresponding one of the lower surface of the first electrode and the upper surface of the second electrode.

21. (New) The MEMS device of claim 1, wherein the first insulating film entirely covers the lower surface of the first electrode, and the second insulating film entirely covers the upper surface of the second electrode.

22. (New) The MEMS device of claim 1, wherein at least one of the first insulating film and the second insulating film entirely and uniformly covers corresponding one of the lower surface of the first electrode and the upper surface of the second electrode.

23. (New) The MEMS device of claim 1, further comprising a substrate having an opening, wherein

a portion of the lower surface of the first electrode which is located directly above the opening is covered by the first insulating film.

24. (New) The MEMS device of claim 1, wherein:

the first film is a fixed film, and

a part of the second film and a part of the second insulating film constitute a vibrating film.